



State of ALASKA

MINERALS & NATURAL RESOURCES: Investment Opportunities

Toronto Forum for Global Cities

October 25, 2011

Commissioner Daniel S. Sullivan
Alaska Department of Natural Resources
www.dnr.alaska.gov

AGENDA



1.

INTRODUCTION TO ALASKA

2.

**STRATEGIC MINERALS,
PRECIOUS METALS, &
INVESTMENT OPPORTUNITIES**

Part One



INTRODUCTION TO ALASKA

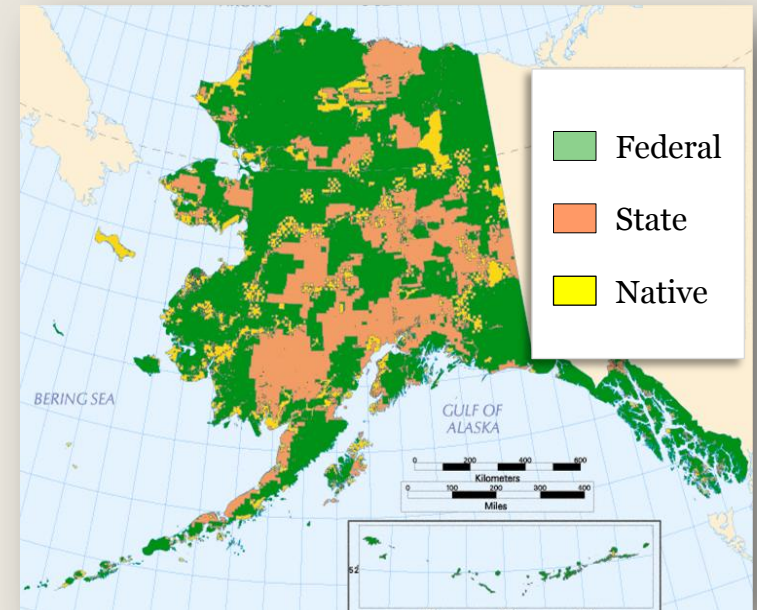
State of Alaska

Land Base

- Encompasses 586,412 square miles—twice the size of Texas
- Is larger than all but 18 sovereign nations
- Has more coastline than all other U.S. states combined
- Has more than 3 million lakes and half of the world's glaciers
- Is the least densely populated U.S. state

Land Ownership

- *Federal*: more than 200 million acres
- *State*: Approx. 100 million acres of uplands, 60 million acres of tidelands, shore lands, and submerged lands, and 40,000 miles of coastline
- *Native Corporation*: 44 million acres



State of Alaska

Department of Natural Resources



DNR manages one of the largest portfolios of oil, gas, minerals, renewable resources, water, and land in the world.

Mission:

- *Responsibly develop Alaska's resources by making them available for maximum use and benefit consistent with the public interest*

Article 8, Section 1 of the Alaska Constitution provides that:

- *"it is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest"*

DNR:

- Manages one of the largest portfolios of oil, gas, minerals, renewable resources, water, and land in the world
- Manages all oil and gas fields on state land, including two of the largest oil and gas fields in North America
- Oversees all activities that occur on state land

Alaska *as a* Storehouse

Hydrocarbons



North Slope

USGS estimates that Alaska's North Slope has more oil than any other Arctic nation

- **OIL:** Est. 40 billion barrels of conventional oil (*USGS & BOEMRE*)
- **GAS:** Est. 236 trillion cubic feet of conventional natural gas (*USGS*)
- Alaska has world-class unconventional resources, including tens of billions of barrels of heavy oil, shale oil, and viscous oil, and hundreds of trillions of cubic feet of shale gas, tight gas, and gas hydrates

Cook Inlet

USGS estimates that significant undiscovered volumes of hydrocarbons remain to be found in the Cook Inlet:

- 19 trillion cubic feet of natural gas
- 600 million barrels of oil
- 46 million barrels of natural gas liquids
- In June 2011, the State of Alaska received the highest number of Cook Inlet lease sale bids in 28 years, totaling more than \$11 million

Compared to most basins, Alaska is relatively underexplored, with 500 exploration wells on the North Slope, compared to Wyoming's 19,000.



Alaska as a Storehouse

Strategic & Critical Minerals



The State of Alaska Ranks in the *Top Ten in the World* for Important Minerals, Including:

- **Coal:** 17% of the world's coal; *2nd most in the world*
- **Copper:** 6% of the world's copper; *3rd most in the world*
- **Lead:** 2% of the world's lead; *6th most in the world*
- **Gold:** 3% of the world's gold; *7th most in the world*
- **Zinc:** 3% of the world's zinc; *8th most in the world*
- **Silver:** 2% of the world's silver; *8th most in the world*

USGS estimates

According to the USGS, Alaska has over 70 occurrences of Rare Earth Elements (REE).

State of Alaska

As an Investor

Alaska's positive investment attributes:

- OECD/political/legal stability
- One of the highest FDI/per capita rates in the U.S.
- The U.S., OECD, and emerging markets are hungry for hydrocarbons, strategic minerals and precious metals; Alaska has these in massive quantities
- World-class environmental standards and operations; Alaska is a global leader in environmental innovation
- Geostrategically located:
 - Close proximity to Asia and Europe
 - World-class cargo hub
 - Enormous Arctic shipping potential



Alaska's significant financial resources:

- The largest sovereign wealth fund in the country—Alaska Permanent Fund Corporation: \$40 billion
- A budget reserve of \$20 billion
- A retirement fund worth \$18 billion
- Triple-A rated

Part Two



STRATEGIC MINERALS, PRECIOUS METALS, & INVESTMENT OPPORTUNITIES

State of Alaska

Recent Mining Activity



The value of mineral production from Alaska totaled an estimated \$2.9 billion in 2009 and \$3.1 billion in 2010.

- Alaska has six lode producing mines, including one of the world's largest zinc mines, the world's 5th largest silver mine, and 4 major gold mines
- **Red Dog:** one of the world's largest zinc mines, produced over 593k tons of zinc, 121k tons of lead, and 6.7 million ounces of silver in 2010
- **Greens Creek:** world's 5th largest silver mine, produced over 7.2 million ounces of silver, 68k ounces of gold, and 75k tons of zinc in 2010
- **Pogo:** produced 383k ounces of gold in 2010
- **Fort Knox:** produced 350k ounces of gold in 2010
- **Usibelli:** produced over 2 million tons of low sulfur coal in 2010
- Two new gold mines came online in 2010: Kensington and Nixon Fork

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Recent Mining Activity

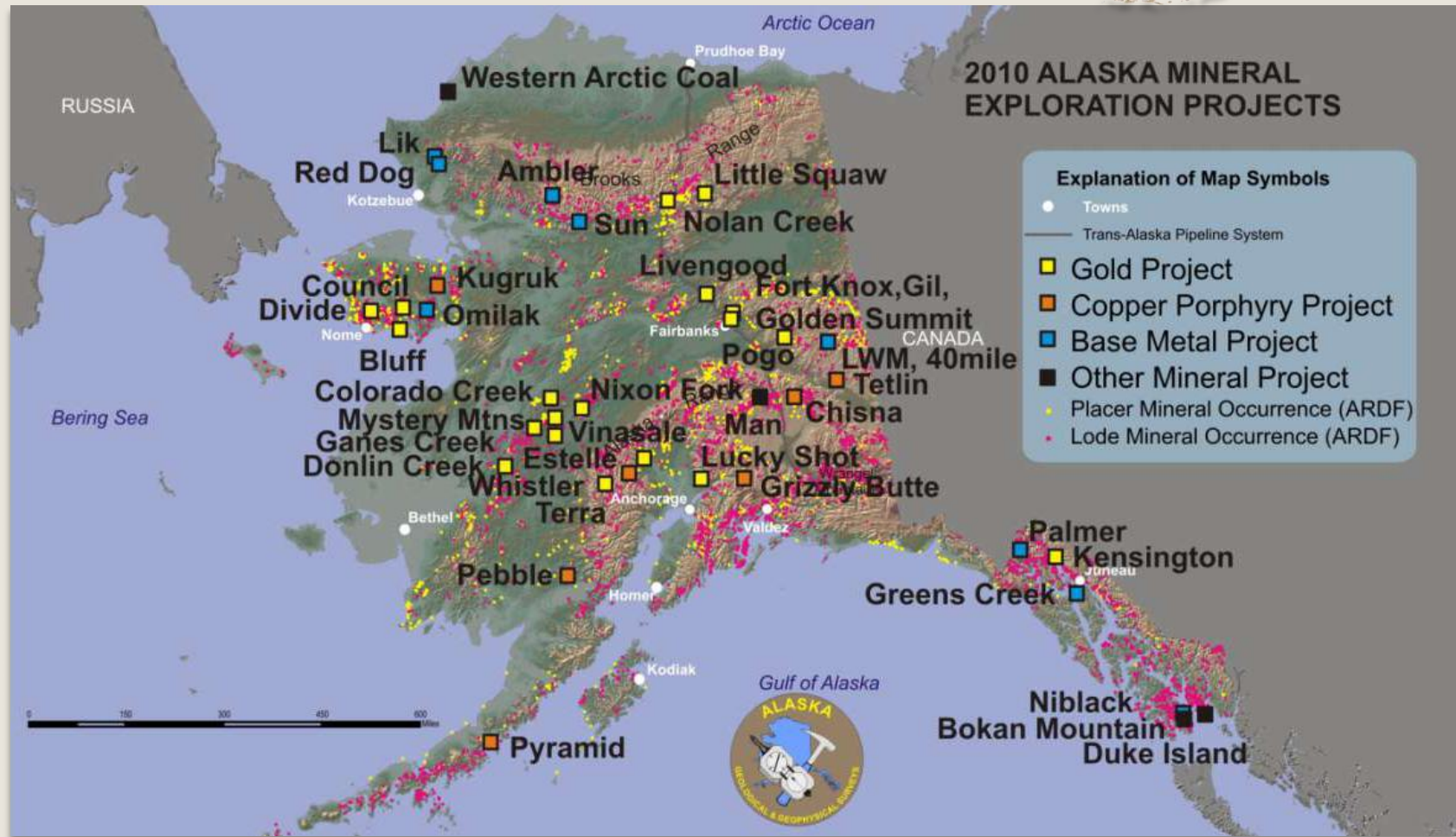


Last year, mineral exploration investment in Alaska totaled \$264 million - accounting for about one-third of the total spent on exploration in the U.S.

- **Advanced exploration projects:**
 - **Pebble:** ~ 80.6 billion pounds of copper, 107.4 million ounces of gold, and 5.6 billion pounds of molybdenum
 - **Bokan Mountain:** enriched in yttrium, dysprosium, and critical heavy Rare Earth Elements
 - **Donlin:** ~ 42.3 million ounces of gold
 - **Money Knob:** ~20.6 million ounces of gold
 - **Niblack:** ~7.3 million tons of polymetallic (copper, gold, silver, and zinc) volcanogenic massive sulfide project
- 34 exploration projects spent over \$1 million in 2010
- 2011 Nome offshore mineral (gold) lease sale received over \$9 million in winning bids for 84 tracts on approximately 24,000 acres

State of Alaska

Recent Mining Activity



Alaska Strategic & Critical Minerals Initiative



Objective:

To highlight Alaska's potential for exploration, development, and processing of strategic and critical minerals, including Rare Earth Elements (REEs)



This comprehensive strategy will:

- I. Undertake a statewide assessment of Alaska's strategic mineral potential
- II. Provide support for the development of known or highly prospective strategic mineral occurrences throughout Alaska through infrastructure partnerships and incentives
- III. Improve the structure and efficiency of permitting processes in order to expedite mineral development, including strategic minerals
- IV. Deepen partnership and cooperation with the federal government, local governments, Native corporations, and other potential new entrants to encourage domestic exploration, development, and processing of REEs and other strategic minerals
- V. Attract new investment and markets for Alaska's abundant mineral resources

Alaska Strategic & Critical Minerals Summit

Fairbanks, Alaska, 9-30-11



OPENING REMARKS

Welcome Remarks: Mayor Jerry Cleworth, *City of Fairbanks*, and Mayor Luke Hopkins, *Fairbanks North Star Borough*

Day's Overview: Dan Sullivan, *Commissioner, Alaska Department of Natural Resources*

PRESENTATIONS: Strategic Minerals—A Global Perspective

General Joe Ralston, *Vice Chairman of The Cohen Group and Former NATO Commander/Supreme Allied Commander, Europe*

Jeff Doebrich, *Acting Program Coordinator, U.S. Geological Survey, Mineral Resources Program*

Jonathan Price, *State Geologist and Director, Nevada Bureau of Mines and Geology*

Jack Lifton, *Founding Principal of Technology Metals Research, LLC, and Consultant, Author, and Lecturer*

KEYNOTE ADDRESS

The Honorable Governor Sean Parnell, *State of Alaska*

Networking Break & Press Conference

LUNCHEON ADDRESS

Honorable U.S. Senator Lisa Murkowski, *Ranking Member, U.S. Senate Committee on Energy and Natural Resources*

PRESENTATIONS: Alaska's Strategic Mineral Wealth and Potential

Bob Swenson, *State Geologist and Director of the Division of Geological and Geophysical Surveys, Alaska Department of Natural Resources*

Dwight Bradley, *Research Geologist, U.S. Geological Survey, Minerals Program, Alaska Science Center*

Jim Barker, *Alaska Project Manager, Ucore Rare Metals, and Former Physical Science Supervisor with the U.S. Bureau of Mines*

PRESENTATIONS: University of Alaska Research on Strategic Minerals and REEs

The Honorable Lieutenant Governor Mead Treadwell

Mark Myers, *Vice Chancellor of Research, University of Alaska Fairbanks*

Dan White, *Associate Vice Chancellor of Research, University of Alaska Fairbanks*

Rajive Ganguli, *Department Chair, Mining and Geological Engineering, University of Alaska Fairbanks*

AFTERNOON ADDRESS

Michael Silver, *President and Chairman of the Board, American Elements*

ROUNDTABLE DISCUSSION: Moving Forward on Strategic Mineral Exploration, Development, and Processing in Alaska

Moderator: Dan Sullivan, *Commissioner, Alaska Department of Natural Resources*

The Honorable U.S. Representative Don Young, *Senior Republican on the U.S. House Transportation and Infrastructure Committee and U.S. House Natural Resources Committee*

Susan Bell, *Commissioner, Alaska Department of Commerce, Community, and Economic Development, and Vice-Chair of the Alaska Industrial Development and Export Authority Board*

Steve Borell, *Executive Director, Alaska Miners Association*

Jim McKenzie, *President and CEO, Ucore Rare Metals*

Ken Peak, *President, Contango Ore*

Curtis Freeman, *President, Avalon Development*

Matt Ganley, *Vice President, Resources and External Affairs, Bering Straits Native Corporation*

Closing Remarks: Ed Fogels, *Deputy Commissioner, Alaska Department of Natural Resources*

Reception and Investor Networking at the Museum of the North

VIDEO ADDRESS: The Honorable U.S. Senator Mark Begich, *U.S. Senate Committee on Commerce, Science, & Transportation, and Committee on Homeland Security and Governmental Affairs*